#### 10/570,815

## 1-13. (CANCELED)

14. (NEW) A range-change transmission comprising:

an input shaft (4);

a gearshift sleeve (42), having radially outer teeth (48), being rotationally fixed to and axially slidable along an end of the input shaft (4) between at least first and second positions;

a first counter shaft (12) and a second counter shaft (14) each having a first gear wheel (8, 10) and a second gear wheel (16, 18) fixedly secured thereto;

a loose gear wheel (6), having radially inner teeth (44) and radially outer teeth, being rotationally supported by the input shaft (4);

the drive output shaft (22) being coaxially aligned with an input shaft (4), and the drive output shaft (22) having radially inner teeth (46) at an end located adjacent the input shaft (4);

an output gear wheel (20) being fixedly secured to the drive output shaft (22), and the output gear wheel (20) engages the second gear wheels (16, 18) of the first counter shaft (12) and the second counter shaft (14);

in the first position of the gearshift sleeve (42), the gearshift sleeve (42) being at least partially located between the input shaft (4) and the loose gear wheel (6) such that the radially outer teeth (48) of the gearshift sleeve (42) engage with the radially inner teeth (44) of the loose gear wheel (6) and the input shaft (4) drives the output shaft (22) via the first and the second counter shafts (12, 14);

in the second position of the gearshift sleeve (42), the radially outer teeth (48) of the gearshift sleeve (42) engage with the radially inner teeth (46) of the drive output shaft (22) so that the input shaft (4) directly drives the drive output shaft (22) via the gearshift sleeve (42), and

first and second pressure combs (50, 52, 54, 56), carried by opposite sides of the output gear wheel (20), maintain the output gear wheel (20) in axial alignment with the second gear wheels (16, 18) of the first and the second counter shafts (12, 14).

15. (NEW) The variable-speed gearbox according to claim 14, wherein the third and fourth pressure combs (54, 56), carried by opposed sides of the loose gear wheel

# RECEIVED CENTRAL FAX CENTER MAY 2 7 2008

#### 10/570,815

- (6), maintain the loose gear wheel (6) in axial alignment with the first gear wheels (8, 10) of the first and the second counter shafts (12, 14).
- 16. (NEW) The variable-speed gearbox according to claim 14, wherein the first and the second counter shafts (12, 14) are maintained in axial position, relative to the drive output shaft (22), by at least the first and the second pressure combs (50, 52).
- 17. (NEW) The variable-speed gearbox according to claim 14, wherein double conical-roller bearings (26, 28) radially and axially support the drive output shaft (22) within a gearbox housing (30).
- 18. (NEW) The variable-speed gearbox according to claim 14, wherein the first and the second counter shafts (12, 14) are only radially supported by a housing (30).
- 19. (NEW) The variable-speed gearbox according to claim 14, wherein the first and the second counter shafts (12, 14) are only radially supported by a housing (30) via roller bearings (34, 36, 38, 40).
  - 20. (NEW) A range-change transmission comprising:

an input shaft (4);

a gearshift sleeve (42), having radially outer teeth (48), being rotationally fixed to and axially slidable along an end of the input shaft (4) between at least first and second positions and a neutral position;

a first counter shaft (12) and a second counter shaft (14) each having a first gear wheel (8, 10) and a second gear wheel (16, 18) fixedly secured thereto;

a loose gear wheel (6), having radially inner teeth (44) and radially outer teeth, being spaced from and surrounding the input shaft (4);

the drive output shaft (22) being coaxially aligned with an input shaft (4), the drive output shaft (22) having radially inner teeth (46) at an end located adjacent the input shaft (4) and double conical-roller bearings (26, 28) radially and axially support the drive output shaft (22) within a housing (30);

an output gear wheel (20) being fixedly secured to the drive output shaft (22), and the output gear wheel (20) engaging the second gear wheels (16, 18) of the first counter shaft (12) and the second counter shaft (14);

in the first position of the gearshift sleeve (42), the gearshift sleeve (42) being at least partially located between the input shaft (4) and the loose gear wheel (6) such that the radially outer teeth (48) of the gearshift sleeve (42) engage with the

(J97/05-6;12 em

### 10/570,815

radially inner teeth (44) of the loose gear wheel (6) and the input shaft (4) drives the output shaft (22) via the first and the second counter shafts (12, 14);

in the second position of the gearshift sleeve (42), the radially outer teeth (48) of the gearshift sleeve (42) engage with the radially inner teeth (46) of the drive output shaft (22) so that the input shaft (4) directly drives the drive output shaft (22) via the gearshift sleeve (42);

a first pair of pressure combs (54, 56) are carried by opposed sides of the loose gear wheel (6) for maintaining the loose gear wheel (6) in axial alignment with the first gear wheels (8, 10) of the first and the second counter shafts (12, 14); and

a second pair of pressure combs (50, 52) are carried by opposed sides of the output gear wheel (20) for maintaining the output gear wheel (20) in axial alignment with the second gear wheels (16, 18) of the first and the second counter shafts (12, 14).

21. (NEW) The variable-speed gearbox according to claim 20, wherein the first pair of pressure combs (54, 56) are arranged closely adjacent the outer teeth of the loose gear wheel (6) and have lateral pressure surfaces which engage with lateral pressure surfaces on the first gear wheels (8, 10) of the first and the second counter shafts (12, 14) and the second pair of pressure combs (50, 52) are arranged closely adjacent the outer teeth of the output gear wheel (20) and have lateral pressure surfaces which engage with lateral pressure surfaces on the second gear wheels (16, 18) of the first and the second counter shafts (12, 14).

22. (NEW) A range-change transmission comprising:

an input shaft (4);

a gearshift sleeve (42), having radially outer teeth (48), being rotationally fixed to and axially slidable along an end of the input shaft (4) between at least first and second positions and a neutral position;

a first counter shaft (12) and a second counter shaft (14) each having a first gear wheel (8, 10) and a second gear wheel (16, 18) fixedly secured thereto;

a loose gear wheel (6), having radially inner teeth (44) and radially outer teeth, being rotatably supported by the input shaft (4) and axially movable therealong;

the drive output shaft (22) being coaxially aligned with an input shaft (4), the drive output shaft (22) having radially inner teeth (46) at a first end located adjacent

## 10/570,815

the input shaft (4) and double conical-roller bearings (26, 28) radially and axially support the drive output shaft (22) within a housing (30);

an output gear wheel (20) being fixedly secured to the drive output shaft (22), and the output gear wheel (20) engaging the second gear wheels (16, 18) of the first counter shaft (12) and the second counter shaft (14);

in the first position of the gearshift sleeve (42), the gearshift sleeve (42) being at least partially located between the input shaft (4) and the loose gear wheel (6) such that the radially outer teeth (48) of the gearshift sleeve (42) engage with the radially inner teeth (44) of the loose gear wheel (6) and the input shaft (4) drives the output shaft (22) via the first and the second counter shafts (12, 14);

in the second position of the gearshift sleeve (42), the gearshift sleeve (42) being at least partially received within a the first end of the drive output shaft (22) and the loose gear wheel (6) such that the radially outer teeth (48) of the gearshift sleeve (42) engage with the radially inner teeth (46) of the drive output shaft (22) so that the input shaft (4) directly drives the drive output shaft (22) via the gearshift sleeve (42);

a first pair of pressure combs (54, 56) are carried by opposed sides of the loose gear wheel (6) for maintaining the loose gear wheel (6) in axial alignment with the first gear wheels (8, 10) of the first and the second counter shafts (12, 14); and

a second pair of pressure combs (50, 52) are carried by opposed sides of the output gear wheel (20) for maintaining the output gear wheel (20) in axial alignment with the second gear wheels (16, 18) of the first and the second counter shafts (12, 14).

62748 -0:12 at